Serial No. 10/770,730 Docket No. 5000-5142

Responsive to Office Action dated 05/20/2008

AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

 (Currently Amended) A compressor with a lubrication structure, comprising: a rotary shaft;

a piston;

a suction pressure zone, the internal pressure of which is suction pressure;

a driving body accommodating chamber;

a driving body accommodated in the driving body accommodating chamber, wherein the driving body converts rotation of the rotary shaft into reciprocation of the piston, thereby causing the piston to compress gas;

a gas passage that extends through the rotary shaft and communicates with the driving body accommodating chamber so that gas in the driving body accommodating chamber flows into the gas passage, wherein the gas passage includes an expansion portion formed in the rotary shaft along the axis of the rotary shaft, and wherein the expansion portion connects to the suction pressure zone so that the gas in the expansion portion flows into the suction pressure zone; and

a fluid passage formed in the rotary shaft <u>opening at one end</u> to open to the expansion portion and at the other end to the driving body accommodation chamber,

wherein the maximum cross-sectional area of the expansion portion is greater than the maximum cross-sectional area of a section of the gas passage that is upstream of the expansion portion with regard to gas flow in the gas passage.

- (Currently Amended) The compressor according to claim 1, wherein the fluid passage extends in a radial direction orthogonal to the with respect to an axis of the rotary shaft.
- (Previously Presented) The compressor according to claim 1, wherein the expansion
 portion has an upstream end and a downstream end with regard to the gas flow, and the

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cross-sectional area of the expansion portion gradually increases from the upstream end toward the downstream end

4. (Currently Amended) The compressor according to claim 1, further comprising:

a discharge pressure zone, the internal pressure of which is discharge pressure;

a suction pressure zone, the internal pressure of which is suction pressure;

a feed passage connecting the discharge pressure zone with the driving body accommodating chamber; and

a bleed passage connecting the driving body accommodating chamber with the suction pressure zone.

wherein the bleed passage functions as the gas passage, wherein the pressure in the driving body accommodating chamber is adjusted by supplying gas in the discharge pressure zone to the driving body accommodating chamber through the feed passage, and bleeding gas in the driving body accommodating chamber to the suction pressure zone through the bleed passage, and wherein a displacement of the compressor is controlled according to the pressure in the driving body accommodating chamber.

- 5. (Original) The compressor according to claim 4, further comprising a plurality of cylinder bores arranged around an axis of the rotary shaft, wherein the piston is one of a plurality of pistons each of which is accommodated in one of the cylinder bores, each piston defining a compression chamber in the associated cylinder bore, wherein the compressor further comprises a rotary valve that has an inlet passage for drawing gas from the suction pressure zone to the compression chambers, wherein the rotary valve includes a supply passage connecting the inlet passage with the suction pressure zone, and wherein the expansion portion communicates with the supply passage through a restriction passage.
- (Original) The compressor according to claim 5, wherein the rotary valve is coupled to the rotary shaft to integrally rotate with the rotary shaft.

 (Original) The compressor according to claim 6, wherein the restriction passage is located in the rotary valve.

- 8. (Original) The compressor according to claim 7, wherein the rotary shaft has one end at which the expansion portion opens, and the rotary valve has one end at which the restriction passage opens, and wherein the one end of the rotary valve is fitted to the one end of the rotary shaft.
- (Withdrawn) The compressor according to claim 5, wherein the rotary valve is a part of
 the rotary shaft, and wherein a shutter having the restriction passage is located in the
 rotary shaft.
- (Original) The compressor according to claim 5, wherein the restriction passage and the supply passage function as the bleed passage.
- (Original) The compressor according to claim 5, wherein the restriction passage is located on the axis of the rotary valve.
- (Original) The compressor according to claim 1, wherein the gas is a refrigerant containing lubricating oil.
- (Currently Amended) A compressor with a lubrication structure, comprising: a rotary shaft:
 - a piston;
 - a suction pressure zone, the internal pressure of which is suction pressure; a swash plate chamber;
 - a swash plate that is accommodated in the swash plate chamber and supported on the rotary shaft, wherein the swash plate converts rotation of the rotary shaft into reciprocation of the piston, thereby causing the piston to compress refrigerant, the refrigerant containing lubricating oil;

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a refrigerant passage extending through the rotary shaft, wherein the refrigerant passage that includes an inlet, which communicates with the swash plate chamber, a guide passage[[,]] and an expansion portion, wherein the inlet communicates with the swash plate chamber so that [[gas]] refrigerant in the swash plate chamber is introduced into the inlet and flows into the suction pressure zone through the guide passage and the expansion portion, and wherein the guide passage and the expansion portion are formed coaxially along the axis of the rotary shaft; and

a fluid passage formed in the rotary shaft in a radial direction orthogonal to the axis of the rotary shaft to connect at one end to open to the expansion portion and at the other end to the swash plate chamber.

wherein the maximum cross-sectional area of the expansion portion is greater than the maximum cross-sectional area of the guide passage, a-section of the refrigerant passage that is upstream of the expansion portion with regard to refrigerant flow in the refrigerant passage.

- 14. (Currently Amended) The compressor according to claim 13, wherein the expansion portion has an upstream end connected to the guide passage and a downstream end opposite to the upstream end with regard to the refrigerant flow, and the cross-sectional area of the expansion portion gradually increases from the upstream end toward the downstream end.
- 15. (Currently Amended) The compressor according to claim 13, further comprising: a discharge pressure zone, the internal pressure of which is discharge pressure; a suction pressure zone, the internal pressure of which is suction pressure; a feed passage connecting the discharge pressure zone with the swash plate chamber; and
 - a bleed passage connecting the swash plate chamber with the suction pressure zone,
 - wherein the bleed passage functions as the refrigerant passage, wherein the pressure in the swash plate chamber is adjusted by supplying refrigerant in the discharge pressure zone to the swash plate chamber through the feed passage, and bleeding

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> refrigerant in the swash plate chamber to the suction pressure zone through the bleed passage, and wherein a displacement of the compressor is controlled according to the pressure in the swash plate chamber.

- 16. (Original) The compressor according to claim 13, further comprising a plurality of cylinder bores arranged around an axis of the rotary shaft, wherein the piston is one of a plurality of pistons each of which is accommodated in one of the cylinder bores, each piston defining a compression chamber in the associated cylinder bore, wherein the compressor further comprises a rotary valve that has an inlet passage for drawing refrigerant from the suction pressure zone to the compression chambers, wherein the rotary valve includes a supply passage connecting the inlet passage with the suction pressure zone, and wherein the expansion portion communicates with the supply passage through a restriction passage.
- (Original) The compressor according to claim 16, wherein the rotary valve is coupled to the rotary shaft to integrally rotate with the rotary shaft.
- (Original) The compressor according to claim 17, wherein the restriction passage is located in the rotary valve.
- 19. (Original) The compressor according to claim 18, wherein the rotary shaft has one end at which the expansion portion opens, and the rotary valve has one end at which the restriction passage opens, and wherein the one end of the rotary valve is fitted to the one end of the rotary shaft.
- (Withdrawn) The compressor according to claim 16, wherein the rotary valve is a part of
 the rotary shaft, and wherein a shutter having the restriction passage is located in the
 rotary shaft.